

DERWENT-ACC-NO: 2001-432573

DERWENT-WEEK: 200415

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TITLE: Local area networks incorporating universal serial bus
(USB) capabilities, includes LAN hub using Ethernet
protocol

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PRIORITY-DATA: 1999US-0439501 (November 12, 1999) , 1998US-0188297
(November
10, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200137485 A1	May 25, 2001	E	194	H04L 012/12
US 6697372 B1	February 24, 2004	N/A	000	H04L 012/66

DESIGNATED-STATES: CA AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC
NL PT SE TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
WO 200137485A1	N/A	2000WO-CA01343	November 10, 2000
US 6697372B1	CIP of	1998US-0188297	November 10, 1998
US 6697372B1	N/A	1999US-0439501	November 12, 1999
US 6697372B1	CIP of	US 6389029	N/A

INT-CL (IPC): G06F013/40, H04L012/12 , H04L012/44 , H04L012/46 ,
H04L012/66 , H04L029/06

RELATED-ACC-NO: 2000-422576, 2000-422577

ABSTRACTED-PUB-NO: WO 200137485A

BASIC-ABSTRACT:

NOVELTY - The **USB** device (100) or **LAN** computer communicates with outer hub
device (80,110,160,240) using a **USB** protocol. The outer hub device

communicates with the **LAN** using an Ethernet protocol and Ethernet device communicates with the Ethernet hub using Ethernet protocol. For asynchronous communications, outer hub device examines **USB** packets from **USB** device or the **LAN** computer, generates handshake packets in response to **USB** packets according to **USB** protocol and ensures that handshake packets are generated within a **USB** time limit prescribed by the **USB** protocol after receiving the **USB** packets.

DETAILED DESCRIPTION - The control unit buffers data received from the **LAN** hub (10) to be sent to the **USB** device such that the data sent to the **USB** device follows the **USB** time limit prescribed the **USB** protocol. AN INDEPENDENT CLAIM is made for:

- (a) an end hub for use in a computer network in which end hub communicates with at least one **USB** device using **USB** protocol and end hub communicates with **LAN** hub using Ethernet protocol via **LAN** link,
- (b) an attachment unit for use in computer network, an enhanced attachment unit for virtually connecting remote **USB** devices to at least one **LAN** computer in computer network,
- (c) a composite end hub for use in computer network.

USE - In **LAN** incorporating **USB** capabilities.

ADVANTAGE - Overcomes reach limitations of the **USB** protocol, allows **USB** device to interface to **LAN** network and interact with remote computers, servers or telephone switches without mediation of local personal computer.

DESCRIPTION OF DRAWING(S) - Drawing shows block diagram of networks connected to **LAN** incorporating **USB** according to preferred embodiment of present invention.

LAN hub 10

Outer hub devices 80,110,160,240

USB device 100

CHOSEN-DRAWING: Dwg.7/30

TITLE-TERMS: LOCAL AREA NETWORK INCORPORATE UNIVERSAL SERIAL
BUS CAPABLE LAN
HUB PROTOCOL

DERWENT-CLASS: T01 W01

EPI-CODES: T01-C07A; T01-C07C4; T01-H07C5A; T01-H07C5C; T01-H07P; W01-A03A1;

W01-A03B; W01-A06B1; W01-A06B3; W01-A06B4; W01-A06B5A; W01-A06B7;

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SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2001-320557